

## ZTT GROUP

Established in 1992, ZTT started from optical fiber communications and was listed on Shanghai Stock Exchange (SSE) in 2002 (Stock Code in SSE: 600522). ZTT has pictured a diversified industrial portfolio for marine equipment, renewable energy, new materials, smart grid, optical communications and other diversified industrial products. ZTT Group is now hosting 80 subsidiary companies and over 16,000 employee, operating 5 overseas plants located in India, Brazil, Indonesia, Morocco and Turkey . ZTT owns more than 2500 patents with independent intellectual property rights, presided over or participated in more than 500 international and national industry standards. The products of ZTT are exported to 160 countries and regions .The company has ranked among the top 500 Chinese enterprises for consecutive years and broke through \$13.4 billion in sales revenue in 2022. ZTT follows the new economic model of fostering cleaner production and accelerating green and low-carbon development, works hard to serve as the pioneer of persistent endeavor to achieve national goal involving carbon dioxide emissions peaking by 2030 and carbon neutrality by 2060, emerging as a green manufacturing technology group assuming regional economy.



## Photovoltaic and Power Engineering Expert



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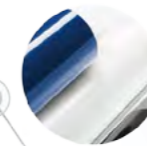
# New Energy Industry

ZTT develops new energy by the ways of industry chain. We are whole green power solution provider including products design, manufacturing, technical support, project service etc.



### Zhongtian Energy Storage Technology Co., Ltd.

Main Products: Lithium Ion battery and energy storage system



### Zhongtian Photovoltaic Materials Co., Ltd.

Main Products: Solar cell backsheet



### Jiangdong Fittings Equipment Co., Ltd.

New energy products: PV mounting structure, aluminum frame etc.



### Zhongtian Yupin Technology Co., Ltd.

New energy products: combiner box, inverter, EV charge pile etc.



### Zhongtian Technology Industrial Wire& Cable System Co., Ltd.

New energy products: new energy cables



### Jiangsu Zhongtian Technology Engineering Co., Ltd.

Principal Business: Installation and maintenance of photovoltaic power plant



### Zhongtian Electrical Technology Co., Ltd.

Main Products: High and low voltage switch ,complete sets of equipment



### ZTT R&D Institute

Principal Business: Technical support of telecommunication, power transmission, equipment manufacturing



## Company Profiles

Zhongtian Photovoltaic Technology Co., Ltd. is a wholly-owned subsidiary of Jiangsu Zhongtian Technology Co., Ltd., which is a professional integrated supplier of new energy application and electric power construction. We have mature experience

of power station, EPC, O&M, and can provide the precision services of project consulting, program design, equipment supply, project installation, handling procedures, O&M.

### Photovoltaic engineering

The company's business scope covers the rooftop of the residents system, industrial and commercial rooftop distributed photovoltaic power generation system, fishing and solar complementary system, agricultural and solar complementary system, the base station off-grid system, island-type micro-grid system, photovoltaic carport system,

subway photovoltaic power generation projects and other types of photovoltaic power plants. The company is one of the first batch of distributed PV demonstration area construction units, and always upholds the concept of quality engineering, service area photovoltaic development, promotes the demonstration area construction, becomes the first indicators of demonstration area. In the industry ZTT has the name "The experts in the photovoltaic power distribution generation".

### Electrical engineering

The company has the qualification of power industry power transmission, substation engineering design and electrical contracting, and can provide the services of 110kV and below power transmission and transformation project, home distribution project design services and power construction.

ZTT treats every customer, every project seriously, and has now completed Rudong Jiangdong 110kV substation, Inner Mongolia wind power transmission line, Ethiopia 132kV Ha Bosch transmission line, Bangladesh 132kV Isudi-Rop transmission line, Bangladesh 33kV cable and land cable distribution network domestic and oversea power transmission engineering design and construction, gains a high degree of


## ZTT Focuses on Precise Manufacturing

Photovoltaic and power engineering expert


# The Mode of Service & Cooperation

## Power Engineering







**Project Consulting**  
Provide professional Planning and evaluation advisory services for power transmission, distribution and agricultural power distribution network.



**Engineering Design**  
Professional 110KV and below power transmission engineering design and 20KV agricultural power distribution network engineering design. Committed to the design, development and application of new energy power generation projects, mainly including wind power and photovoltaic power generation.



**Engineering Construction**  
With mechanical and electrical equipment installation engineering professional contract qualification certificate, permit for electric power installation qualification, a professional high-quality construction and project management team. Adhere to "Quality is life", "Security ensures revenue", efforts to build quality demonstration projects, and continuously improve service quality.



**After-sales Service**  
Professional after-sales service team and technical service. Expert-level engineers to provide you with fast, professional, safe after-sales service.

## Photovoltaic Power Station Project

### The Mode of Technical Service

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### Commercial Cooperation Mode



# Electric Power Typical Projects



- Ethiopia Hubble's 132KV transmission line project
- Bangladesh 132KV transmission line project
- Yangkou port 100MW PV plant 20KV outgoing transmission line project
- Tongzhou Huadian 20MW Fishing-solar 10KV transmission line project
- Jiangsu Rugao Changqingsha Low voltage parallel cluster conductor transmission line project
- Jiangsu Yida Home Co., Ltd Xianghe gulf 10KV transmission line project
- Inner Mongolia 49.5MW Wind heating 10KV distribution line project
- Rudong Hekou Industrial Park 10KV transmission line project
- Rudong Hekou Zhongtian Industrial Park 10KV distribution line project
- New Energy Industrial Park 10KV distribution line project
- Nantong Li'Ao Textile Co., Ltd distribution line project
- Zhongtian New Energy R&D building 10KV distribution project
- Nanjing Liuhe District GeTong center community project 10KV power distribution project
- Kunshan urban IKEA 10KV distribution project
- Hai'an Yurun Square 10KV distribution project
- Bangladesh 33kV Chittagong submarine cable and land cables distribution project
- Afghanistan 20KV/0.4KV distribution project
- Suzhou headquarters western hill 132 line transformer capacity project
- Qidong 10KV jindong Line Haifen town public substation capacity increase project
- Qidong Huamulan line 10KV transform and distribution capacity increase project

Transmission Line Project



Substation Project



Power Distribution Project



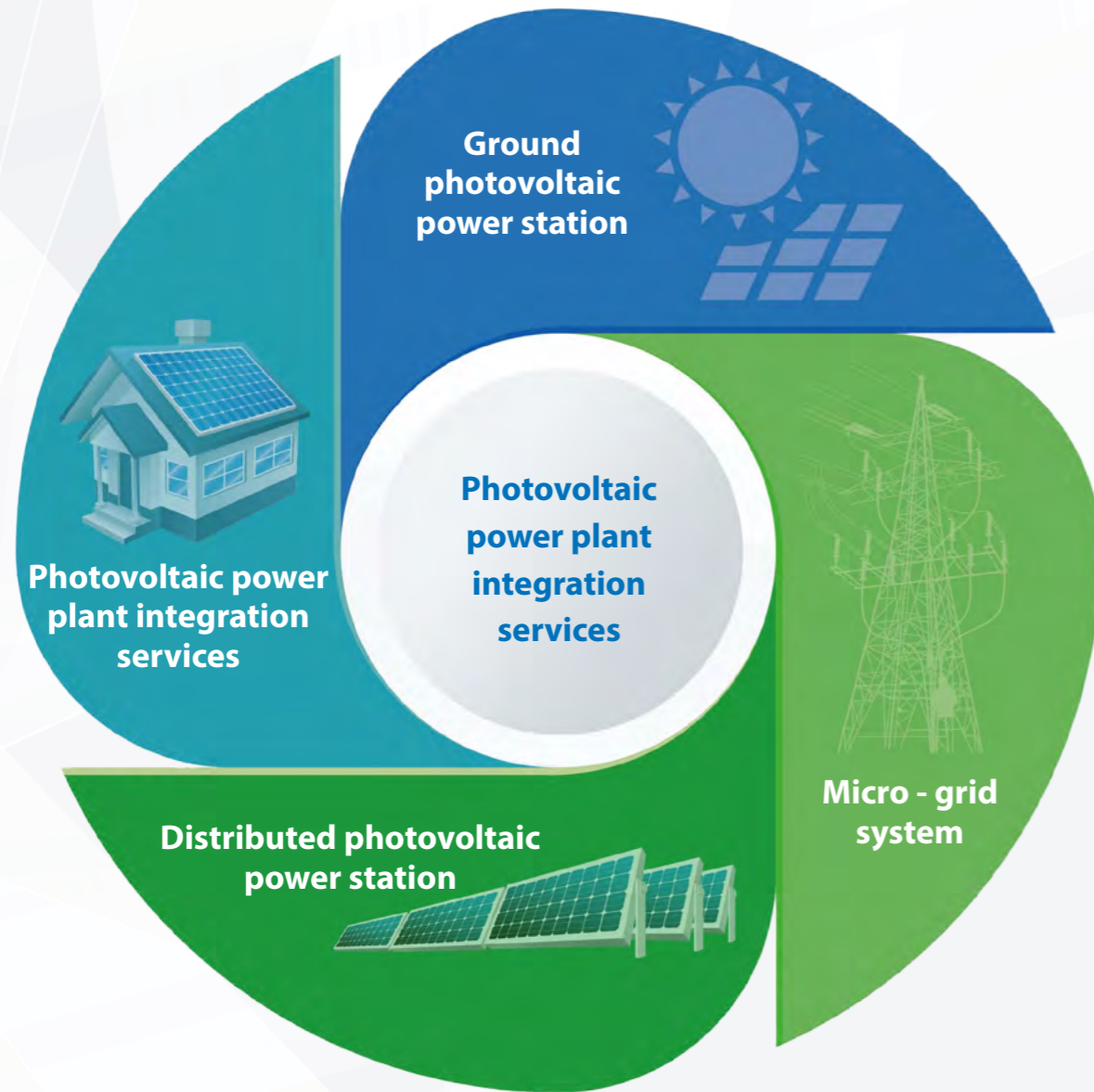
Power Distribution Network Project



Power Cable Project



# Photovoltaic Power Plant Typical Projects



Zhongtian Photovoltaic Technology Co., Ltd. to the distribution of photovoltaic power plant construction features micro-grid technology as the core, the key material for the breakthrough.

Adhere to a high starting point, high standards, take the road of differentiation, to become the leading enterprise of China photovoltaic power generation industry.

- 2012 ● NETDA 100kwp smart micro-grid system on-line operation;
- 2013 ● The construction of the first batch of 18 distributed photovoltaic power generation demonstration area "NETDA 150MWp distributed photovoltaic power generation demonstration project";
- 2014 ● Develop large coastal mudflat areas of Yangkou, enter into the large centralized ground photovoltaic power station;
- 2015 ● In Rudong, Haian and other places, build photovoltaic Township, achieve "A thousand projects";
- 2016 ● Shijiazhuang subway project, Suzhou wind-solar-energy storage off-grid project, Qingdao off-grid island project, explore rail transport and other emerging photovoltaic applications fields;

## Centralized Ground Photovoltaic Power Station

### ● Yangkou centralized ground 100MWp photovoltaic power station



### Nantong first large coastal mudflat photovoltaic power generation and cultivation project

- The use of coastal beach for photovoltaic power generation and fisheries.
- Make full use of land resources, with a multi-purposes features.
- Equipment matching rate over 90%.

## Distributed Photovoltaic Power Station

### Sweden IKEA distributed photovoltaic power station



IKEA's first distributed PV project in China

- 60 days construction period, engineering design, construction and operation ability to achieve the European standard.
- Advantages of industrial chain, power plant equipment matching rate over 90%, win high appraisal from IKEA.
- The strategic cooperation relationship between ZTT and IKEA.

### Hefei Smarter Technology Group Distributed Photovoltaic Power Station



The first distributed PV power generation project 100% selling power to state grid in Hefei City

- Distributed PV power generation 100% sell to state grid
- Full use of plant idle rooftop resources
- To alleviate the local electricity consumption pressure during the peak time

## Rail Transport Photovoltaic Power Station

### Shijiazhuang Subway Line 1 photovoltaic power station

This project is contracted by ZTT as EPC contractor. It is located in Xizhao Comprehensive Maintenance Base, Line 1 of Shijiazhuang Urban Rail Line. The project has significant energy

saving and emission reduction effect. It is the benchmark for the green energy project of rail transport system in China.



The first national MW subway photovoltaic project

- Industrial chain advantage, power plant equipment matching rate over 90%
- Precision manufacturing concept, guarantee the quality of construction
- To complete the design and construction of rail transport system, in line with the requirements of rail transport industry standards

### CCTV reported



CCTV makes special report on Shijiazhuang Subway Photovoltaic Project, concerns the significance on the combination of photovoltaic power station and rail transport

on energy saving and emission reduction, advocates the green operation of rail transport.

## BIPV power station

### ● PV carport on Rudong Administrative Center



The first PV carport Project in Nantong

- Ingenuity, convenient installation
- Nice-looking and utilitarian by using highly efficient double-glass photovoltaic modules
- Without additional occupation of the valuable space of the administrative center

## Micro - grid system engineering

### ● Micro - grid power station of Suzhou Tongli State Grid



The First Micro - grid Demonstration Project in State Grid Jiangsu

- Photovoltaic, wind, energy storage as one multi-source power supply
- Harmony with the external landscape of architecture
- Advanced intelligent energy management and control technology
- 2016 International Energy Reform Forum Demonstration Project

## Household photovoltaic power station

### ● "Photovoltaic Township" Project

Zhongtian Photovoltaic Technology Co., Ltd. in the Rudong, Hai'an and other places to implement the "Photovoltaic Township" project, committed to high standards of design, precision construction, to build high quality household

projects. To achieve self-employed, low-carbon environmental protection of the new household electricity consumption model, the scale of construction to achieve good economic and social benefits.



## Off - grid photovoltaic power station

### ● Gansu Jiuquan Communication Base Station Photovoltaic Project

Wind-solar-DG-Energy storage hybrid power supply system. It is a wind energy, solar energy and other energy power generation and intelligent control system for the integration

of renewable energy power generation system. Reliable power supply to remote areas, islands, powerless areas of the communication base stations and residents.





## 100MW On Ground Power Plant

### Philippines Cadiz PV Power Plant



## Solar-Energy Storage Hybrid Power System

### Germany Solar-Energy Storage Hybrid Power System



## Household Solar System

### 6.7KWp household PV solar system in Costa Rica

### 5.2KW household PV solar system in Serbia

### 6.24KW household PV solar system in South Africa



## O&M of PV Power Plant



- We are professional O&M service provider in PV power system and mainly service we can provide are implementation and management of operation, maintenance, inspection and repair, test, technical transform etc.
- We have perfect operation management system , experienced O&M management team , advanced technology, and mature implementation plan and experience on panel cleaning , system test and monitoring.
- We change the traditional power plant O&M mode, and develop advanced management conception , lower the

- operation cost, increase the service quality and Maximize the power deliver to power grid.
- Based on cloud platform PV power plant O&M management system , strong self learning intelligent procedure, use cloud calculationsource to realize big data analysis, modularize, standardize to meet with multi facilities and multi solution connection into system, support movable visit to learn PV power plant at any time any where.
- Philosophy of ZTT O&M: technology leading, service base, long term cooperation , mutual benefit, cherish our brand.

## Large-screen visual display of all levels of power plant KPI data

- (1) Projected return of power plant
- (2) Power plant PR analysis
- (3) Estimation of Residual Value of Power Plant
- (4) Comparison of Output Efficiency of Inverters in Different Locations
- (5) Comparison of Inverter Power Curves in Different



# Photovoltaic Power Plant O&M Services

## Intelligent monitoring

Provide comprehensive power plant information, intelligent reform solutions.

### ● Photovoltaic power plant informatization reform

- In the early stage, intelligent equipment of PV power plant was not popularized, especially the non-intelligent operation of the combiner box could not realize the cascade operation monitoring. Part of the power plant information level is low, the lack of power plant operation data acquisition, resulting in operation monitoring, power generation cannot be achieved.
- Provide mature wireless monitoring and control solutions, without major changes, easy to solve the intelligent reform of equipment.

### ● Intelligent centralized monitoring solution for photovoltaic power plant

- Management dilemma of photovoltaic power plant: The distribution of photovoltaic power plant is distributed, the number of plant monitoring equipment is large, with photovoltaic power plants more widely expand, the operation management team is in a synchronous rapid expansion, the quality of operation and maintenance personnel uneven but the efficiency more and more low, and the cost of management, gradually increase, maintenance and management of photovoltaic power plants become a pain point for photovoltaic power plant investors.
- The local photovoltaic power station intelligent equipment and data acquisition equipment is different, according to different stations can provide customized intelligent centralized monitoring solutions.

## Service team

With a high-quality operation and maintenance team, high-pressure three permits complete rate of 100%, the existing photovoltaic power plant operation and maintenance of the use of zoning point efficient operation and maintenance mode, according to the location of the project in the nationwide operation and maintenance services, The establishment of major cities offices, to create two-hour after-sales service to the scene of the rapid response operation and maintenance mode.

# Social Responsibility

- ZTT in the practice of corporate social responsibility, take the green manufacturing and social harmony as a corporate social contribution to the value orientation to achieve resource conservation and environmental protection.
- ZTT as the first Chinese private enterprises released "corporate social responsibility report", are revised every year.
- ZTT established "ZTT love fund" to participate in charitable and charitable activities.



# Certification Authority

